



#12

Our Docket No: 005493.P001

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:)	
)	Examiner: Not yet assigned
Malcolm J. Simons)	
)	Art Unit: 1655
Application No.: 09/935,998)	
)	
Filed: August 23, 2001)	
)	
For: Intron Sequence Analysis Method)	
For Detection of Adjacent and)	
Remote Locus Alleles as Haplotypes)	
)	

STATEMENT UNDER 37 C.F.R. 1.821(f)

Mail Stop Sequence
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22213-1450

Dear Sir:

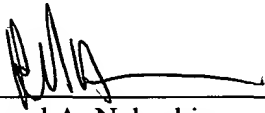
The Applicant hereby states that:

The written copy of the Sequence Listing submitted herewith does not include new matter (37 C.F.R. § 1.825 (a)) and the content of the computer-readable copy of the Sequence Listing, also submitted herewith, is identical to the written copy of the Sequence Listing (37 C.F.R. § 1.825).

Respectfully Submitted,

BLAKELY, SOKOLOFF, TAYLOR & ZAFMAN LLP

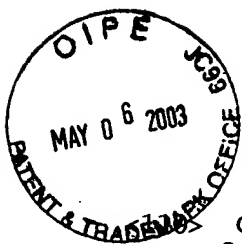
Date: May 2, 2003



Richard A. Nakashima
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(303) 740-1980

#12



Sequence Listing
SEQUENCE LISTING

Genetic Technologies
Simons, Malcom J.

<120> Intron Sequence Analysis Method for Detection of Adjacent and
Remote Locus Alleles as Haplotypes

<130> 005493.P001

<140> 09/935,998

<141> 2001-08-23

<150> US 07/949,652

<151> 1992-09-23

<150> US 07/551,239

<151> 1990-07-11

<150> US 07/465,863

<151> 1990-01-16

<150> US 07/405,499

<151> 1989-09-11

<150> US 07/398,217

<151> 1989-08-25

<160> 78

<170> PatentIn version 3.1

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<213> Homo sapiens

<220>

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<223> Class I-C1 allele

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120

tctacacgtc cattcccagg gcgagctcac tgtctggcag caagttcccc atggctcgagt

180

ttccctgtac aagagtccaa ggggagaggt aagtgtcctt tattttgctg gatgtagttt

240

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300

Sequence Listing

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ttccacagac agatccttgg ccaggactca ggcacacagt gtgacaaaga tgcttggtgt
420

aggagaagag ggatcagacg aagtcccagg tcccgggcgg ggttctcagg gtctcaggct
480

ccaaggggcg tgtctgcact ggggaggcgc cgcgttgagg attctccact cccctgagtt
540

cacttcttct cccaacctgc gtcgggtcct tcttcctgaa tactcatgac gcgtcccaa
600

ttcccactcc cattgggtgt cgggttctag aagccaatca gcgtctccgc agtcccgggt
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ctaaagtccc cagtcacca cccggactca gattctcccc agacgccgag atgcgggtca
720

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780

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911

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Sequence Listing

120

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180

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240

ttgaccactt tgaccactgc agcagctgtg gtcaggctgc tgacctttct ctcaggcctt

300

gttctctgcc tcacgttcaa tgtgtttgaa ggtttgattc cagcttttct gagtccttcg

360

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420

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480

ttccccaccc caggtgtcct gtccattctc aggatggtca catgggcgct gttggagtgt

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<212> DNA

<213> Homo sapiens

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Sequence Listing

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360

tccacagaca gatccttccg gaggactcag gcacacagtg tgacaaagat gcttggtgta

420

ggagaagagg gatcaggacg aagtcccaga cccgggcggg gttctcaggg tctcaggctc

480

caaggggcggt gtctgcactg gggaggcgcc gcgttgagga ttctccactc ccctgagttt

540

cacttcttct cccaacctgc gacgggtcct tcttctgaa tactcatgac gcgtcccca

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ttccactcc attgggtgtc gggttctaga gaagccaatc accgtctccg cagtcccggt

660

tctaaagtcc ccagtcaccc acccgactc ggattctccc cagacgccga gatgcgggtc

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900

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<210> 4

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<212> DNA

<213> Homo sapiens

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<221> misc_feature

<223> Class I-C2 allele IVS3

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Sequence Listing

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180
tgaagtcctt gaggaaatgg aggggaagac agtccttga atactgatca ggggtccct
240
ttgaccactt tgaccactgc agcagctgtg gtcaggctgc tgaccttct ctcaggcctt
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gttctctgcc tcacgttcaa tgtgtttgaa ggtttgattc cagcttttct gagtccttcg
360
gcctccactc aggtcaggac cagaagtcgc tgttctccc tcagagacta gaactttcca
420
atgaatagga gattatcca ggtgcctgtg tccaggctgg cgtctgggtt ctgtgcccc
480
ttccccaccc caggtgtcct gtccattctc aggatagtca catgggcgct gttggagtgt
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588

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<213> Homo sapiens

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<222> (75)..(76)
<223> "N" is an unidentified nucleotide

<220>
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<223> Class I-C3 allele

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ttgggtgtcg gaccnntcta gaaggccggt cagcgtctcc gcagtcccgg ttctgaagtc
120
cccagtcacc caccggact cagattctcc ccagacgccc agatgcgggt catggcgccc

Sequence Listing

180

cggaccctca tcctgctgct ctcgggagcc ctggccctga ccgagacctg ggccggtgag

240

tgcgggggttg ggaggggaatc ggcctcttgc ggagaggagc gaggggccccg cccggcggag

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360

ccccag

366

<210> 6

<211> 578

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<223> Class I-C3 allele IVS3

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120

gatgagtttt cctgagtttc ctctgagggc cccctctgct ctctgaggac aattaagggga

180

tgaagtcctt gaagaaatgg aggggaagac agtccctaga atactgatca ggggtcccct

240

ttgaccactg cagcagctgt ggtcaggctg ctgacctttc tctcaggcct tgttctctgc

300

ctcacgtca atgtgtttga aggtttgatt ccagcttttc tgagtccttc ggcctccact

360

caggtcagga ccagaagtcg ctgttcctcc ctgagagact agaactttcc aatgaatagg

420

agattatccc aggtgcctgt gtccaggctg gcgtctgggt tctgtgcccc cttccccacc

480

Sequence Listing

ccagggtgtcc tgtccgttct caggatggtc acatgggcgc tggtggagtg tcgcaagaga
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<212> DNA
<213> Homo sapiens

<220>
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<223> Class I-B27 allele

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120

tgaaggggaa gcgggtgggc gccactgggg gtctctccct ggtttccaca gacagatcct
180

tgtgccggac tcaggcagac agtgtgacaa agaggctggt gtaggagaag agggatcagg
240

acgaacgtcc aaggccccgg gcgcggtctc aggggtctcag gctccgagag ccttgtctgc
300

attggggagg cgcacagttg gggttcccca ctcccacgag tttcacttct tctcccaacc
360

tatgtcgggt ccttcttcca ggatactcgt gacgcgtccc catttccact cccattgggt
420

gtcgggtgtc tagagaagcc aatcagtgtc gccgggggtcc cagttctaaa gtccccacgc
480

accacccgg actcagaatc tcctcagacg ccgagatgcg ggtcacggcg ccccgaacc
540

tcctcctgct gctctggggg gcagtggccc tgaccgagac ctgggctggt gagtgcgggg
600

tcaggcaggg aaatggcctc tgtggggagg agcgagggga cgcaggcggg ggcgcaggac
660

Sequence Listing

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<210> 8
<211> 575
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<223> Class I-B27 allele IVS3

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120
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180
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ttgaccctg cagcagcctt gggaaccgtg acttttctc tcaggccttg ttcacagcct
300
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360
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420
attatcccag gtgcctgcgt ccaggctggt gtctgggttc tgtgccctt cccacccca
480
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575

<210> 9
<211> 289
<212> DNA
<213> Homo sapiens

Sequence Listing

<220>
<221> misc_feature
<223> Class I-B58 allele

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180
gaaatggcct ctgtggggag gagcgagggg accgcaggcg gggg'gcagg acctgaggag
240
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289

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<211> 575
<212> DNA
<213> Homo sapiens

<220>
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120
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240
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300
cacactcagt gtgtttgggg ctctgattcc agcacttctg agtcacttta cctccactca
360
gatcaggagc agaagtcctt gttccccgct cagagactcg aactttccaa tcaataggag

Sequence Listing

420

attatcccag gtgcctgcgt ccaggctggg gtctgggttc tgtgcccctt cccacacca

480

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<211> 728

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<223> Class I-A2 allele

<400> 11

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120

aaagtgaaag gagagggacg gggcccatgc cgaggggttc tcccttgttt ctcagacagc

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240

cagggcgaag tccagggccc caggcgttgg ctctcagggt ctcaggcccc gaagggcggt

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360

ctcccaacct atgtagggtc cttcttcctg gatactcacg acgcggaccc agttctcact

420

cccattgggt gtcgggtttc cagagaagcc aatcagtgtc gtcgcggtcg cggttctaaa

480

gtccgcacgc acccaccggg actcagattc tccccagacg ccgaggatgg ccgtcatggc

540

Sequence Listing

gccccgaacc ctcgtcctgc tactctcggg ggctctggcc ctgaccaga cctgggcggg

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720

gtccccag

728

<210> 12

<211> 599

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<223> Class I-A2 allele IVS3

<400> 12

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agaggaatcc tcctgggttt ccagatcctg taccagagag tgactctgag gttccgccct

180

gctctctgac acaattaagg gataaaatct ctgaaggaat gacgggaaga cgatccctcg

240

aatactgatg agtgggtccc ttgacacac acaggcagca gccttgggcc cgtgactttt

300

cctctcaggc cttgttctct gcttcacact caatgtgtgt gggggcttga gtccagcact

360

tctgagtcct tcagcctcca ctcaggtcag gaccagaagt cgctgttccc tcttcaggga

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Sequence Listing

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<211> 450

<212> DNA

<213> Homo sapiens

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<223> Class I-A3 allele

<400> 13

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cttttctccc ctgctcccaa cctacgtagg gtccttcac ctggatactc acggacgcgg

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accagttct cactcccatt ggggtgtcggg tttccagaga agccaatcag tgtcgtcgct

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gttctaaagc ccgcacgcac ccaccgggac tcagattctc cccagacgcc gaggatggtc

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cgggcgggtc tcagccactg ctccccccag

450

<210> 14

<211> 576

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<223> Class I-A3 allele IVS3

<400> 14

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Sequence Listing

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120

gaggaattct tcttggtttc aggacctgga ccagagagtg actctgaggt ttcggcctgc

180

tcacaggcac aattaaggga taaatctctg aaggagtgc ggaagacga ttccttggat

240

tctggtgagt ggttcccttt ggcaccggcg acggccttgg gccctgact tttcctctca

300

ggccttggtc tctgcttcac actcaatgtg tgtgggggtc tgagtccagc acttctgagt

360

ccctcagcct ccactcaggt caggaccaga agtcgctggt cccttctcag ggaatagaag

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480

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<210> 15

<211> 435

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (348)..(348)

<223> "N" is an unidentified nucleotide

<220>

<221> misc_feature

<223> Class I-Ax allele

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120

Sequence Listing

gtttctattc ccactaggtg tcgggtttct agagaagcca atcgggtgccg ccgcggtccc
180

ggttctaaag tccccacgca cccaccggga ctcagattct ccccagacgc cgaggatgtc
240

gccgtcatgg cgccccgaac cctcctcctg ctgctctcag gggccctggc cctgacctag
300

acctggggcg gtgagtgcag ggtctgcagg gaaatggtcg ggaggagnga ggggcccgcc
360

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420

cctcctcgct cccag

435

<210> 16
<211> 569
<212> DNA
<213> Homo sapiens

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<223> Class I-Ax allele IVS3

<400> 16
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120

gaggaatcct cttgggtttc cagagagtga ctctgagggt ccgcctgctc tctgacacaa
180

ttaagggatg aaatctgtga ggaaatgaag ggaagacaat ccctggaata ctgatgagt
240

gttccctttg aactggcag cagccttggg ccccgtagct tttcctctca ggccttggtc
300

tctgcttcac actcaatgtg cgtgggggtc tgagtcctca gcctccactc aggtcaggac
360

cagaagtcgc tgttccctct tcagggacta gaattttcca cggaatagga gattattcta

Sequence Listing

420

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480

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569

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<212> DNA

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<223> Class I-A24 allele

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tcttttctcc ctgtcccaac ctatgtaggg tccttctcct ggatactcac gacgcggacc

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cagttctcac tcccattggg tgtcgggttt cgagagaagc caatcaatgt cgtcgcggtc

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gctgttctaa agtccgcacg caccaccgg gactcagatt ctccccagac gccgaggatg

240

gccgtcatgg ggccccgaac cctcgtcctg ctactctcgg gggccctggc cctgacccag

300

acctgggcag gtgagtgcgg ggtcgggagg gaaatcggcc ctctgcgggg agaagcaagg

360

ggccccgctg gcgggggagc aagacccggg aagccgcgcc gggaggaggg tcgggcgggt

420

ctcagccact cctcgtcccc ag

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<210> 18

<211> 558

<212> DNA

<213> Homo sapiens

Sequence Listing

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<223> Class I-A24 allele IVS3

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120
gagaggaatc ctctgggtt tccagatcct gtaccagaga gtgactctga ggttccgccc
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tgctctctga cacaattaag ggataaaatc tctgacggaa tgacggaaag acgatccctc
240
gaatactgat gactggttcc ctttgacacc ggcagcagcc ttgggaccgt gacttttcct
300
ctcaggcctt gttctctgct tcacactcaa tgtgtgtggg ggtctgagtc cagcacttct
360
gagtcctca gcctccactc aggtcaggac cagaagtcgc tgttccctct tcaggggaata
420
gaagattatc ccagggcctg tgtccaagct ggtgtctggg ttctgtactc ttttcccgt
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540
aggtgcaaaa cccgtcag
558

<210> 19
<211> 806
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<223> DQA1-A3

<400> 19
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60

Sequence Listing

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tttgttatta actgatgaaa gaattaagtg aaagataaac cttaggaagc agaggggaagt
120
taatctatga ctaagaaagt taagtactct gataactcat tcattccttc ttttgttcat
180
ttacattatt taatcacaag tctatgatgt gccaggctct caggaaatag tgaaaattgg
240
cacgcatat tctgcccttg tgtagcacac accgtagtgg gaaagaagtg cacttttaac
300
cggacaacta tcaacacgaa gcggggagga agcaggggct ggaaatgtcc acagactttg
360
ccaaagacaa agcccataat atctgaaagt cagtttcttc catcattttg tgtattaagg
420
ttctttattc ccctgttctc tgccttcctg cttgtcatct tcactcatca gctgaccatg
480
ttgcctctta cgggtgtaaac ttgtaccagt cttatgggtcc ctctgggcag tacagccatg
540
aatttgatgg agacgaggag ttctatgtgg acctggagag gaaggagact gtctggcagt
600
tgcctctgtt ccgcagattt agaagatttg acccgcaatt tgcactgaca aacatcgctg
660
tgctaaaaca taacttgaac atcgtgatta aacgctcaa ctctaccgct gctaccaatg
720
gtatgtgtcc accattctgc ctttctttac tgatttatcc ctttatacca agtttcatta
780
ttttctttcc aagaggtccc cagatc
806

```

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<210> 20
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<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<223> DQA-1A1.2

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Sequence Listing

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120
taaacctaatt ttctgactaa gaaagctaaa tactatgata actcattcat tccttctttt
180
gttcaattac attatttaatt cataagtcca tgacgtgcca ggcactcagg aaatagtaaa
240
aattggacat gcgatattct gcccttgtgt agcgcacact agagtgggaa agaaagtgca
300
cttttaactg gacaactacc aacatgaaga ggggaggaag caggggctgg aaatgtccac
360
agactgtgcc aaaaaatgaa gcccataata ttgaaagtc aggtctttcc atcattttgt
420
gtattaaggt tctttcttcc tctgttctcc gccttctctg ttgtcatctt cactcatcag
480
ctgaccacgt tgcctcttgt ggtgtaaact tgtaccagtt ttacgggtccc tctggccagt
540
acacccatga atttgatgga gatgagcagt tctacgtgga cctggagagg aaggagactg
600
cctggcggtg gcctgagttc agcaaatttg gaggttttga cccgcagggt gcactgagaa
660
acatggctgt ggcaaaacac aacttgaaca tcatgattaa acgctacaac tctaccgctg
720
ctaccaatgg tatgcgtcca ccattctgcc tctctttact taataagcta tccctccata
780
ccaaggttca ttattttctt cccaagaggt ccccgatc
819

<210> 21
<211> 815
<212> DNA
<213> Homo sapiens

Sequence Listing

<220>
<221> misc_feature
<223> DQA1-A4.1

<400> 21
gacctctgtg tagagtgtcc tgttctgagc cagtcctgag aggaaagaaa atacaatcag
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120
aaacctaadc tctgactaag aaagctaaat accataataa ctcattcatt ccttcttttg
180
ttcaattaca ttgatttaac cataagtccg tgatgtgccg ggcactcagg aaatagtaaa
240
aactggacat gtgatattct gcccttgtgt agcgcacatt atagtgggaa agaaagcgca
300
attttaaccg gacaactacc aacaataaga gtggaggaag caggggttgg aaatgtccac
360
aggctgtgcc aaagatgaag cccgtaatat ttgaaagtca gttcttttca tcatcathtt
420
gtgtattaag gttctgtctt cccctgttct ctcacttcct gcttgtcatc ttcactcatc
480
agctgaccac gtcgcctctt atgggtgtaa cttgtaccag tcttacggtc cctctggcca
540
gtacacccat gaatttgatg gagatgagca gttctacgtg gacctgggga ggaaggagac
600
tgtctggtgt ttgcctgttc tcagacaatt tagaatttga cccgcaattt gcactgacaa
660
acatcgctgt cctaaaacat aacttgaaca gtctgattaa acgctccaac tctaccgctg
720
ctaccaatgg tatgtgtcaa caattctgcc cctctttact gatttatccc ttcataccaa
780
gtttcattat tttatttcca agaggtcccc agatc
815

Sequence Listing

<210> 22
<211> 1292
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<223> DQB1

<400> 22
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tccaacatag aagggactga acctcaacgg gacttgggag ggtaaatacta ggcattgggaa
120
ggaaggtatt ttaccaggg accaagagaa tacgcgtgtc agaacgaggc caggcttaat
180
tcctggacct atctcgtcat tccgttgaac tctcagattt atgtggataa ctttatctct
240
gaggtatcca ggagcttcat gaaaaatggg atttcatgcg agaacgccct gatccctcta
300
agtgcagagg tgcattgtaa atcagcccgga ctgcctcttc gctgggttca caggctcagg
360
cagggacagg gctttcctcc ctttcttga tgtaggaagg cagattccag aagcccga
420
agaaggcggg cagagctggg cagagccgcc gggaggatcc caggctctgga gcgccaggca
480
cgggcgggcg ggaactggag gtcgcgcggg cggttcaca gctccaggcc gggtcagggc
540
ggcggctgcg ggggcggccg ggctggggcc tgactgaccg gccggtgatt ccccgagag
600
gatttcgtgt accagtttaa gggcatgtgc tacttcacca acgggacgga gcgcgtgcgt
660
cttgtaacca gacacatcta taaccgagag gactacgcgc gcttcgacag cgacgtgggg
720
gtgtaccggg cggtgacgcc gcaggggagg cctgttgccg agtactggaa cagccagaag
780

Sequence Listing

gaagtcctgg agaggacccg ggcggagttg gacacggtgt gcagacacaa ctacgaggtg

840

gggtaccgcg ggatcctgca gaggagaggt gagcttcgtc gcccctccgt gagcgacccc

900

ttggccggga ccccagatct ctgtgccggg agggcgatgg gggcgaggtc tctgaaatct

960

tgagcccagt tcattccacc ccagggaag gaggcggcgg cgggggtggt gggggcaggt

1020

gcacgaggtg ggcggggacc tagggcagag cagggggaca agcagagttg gccaggctgc

1080

ctagtgtccc cccagcctc ctctccgtc ggcctcgtcc tctgctctgg acgtttctcg

1140

cctcgtgcct tatgcgtttg cctcctcgtg ccttaccttc gctaagcagt tctctctgcc

1200

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1260

gccacagtc gcgcattcgc cgcaggaagc tt

1292

<210> 23

<211> 1291

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<223> DQB1

<400> 23

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tccttcatag aagggactga acctcttcgg gacttgggag ggtaaatacta ggcattgggaa

120

ggaaggattt ttaccaggga accaagagaa tacgcgtgtc agaacgaggc caggcttaat

180

tcctggacct atctcgtcat tccgttgaac tctcagattt atgtggataa ctttatctct

240

Sequence Listing

gaggtatcca ggagcttcat gaaaaatggg atttcatgcg agaacgccct gatccctcta
300

agtgcagagg tgcagtataa atcagcccga ctgcctcttc gctgggttca caggctcagg
360

cagggacagg gctttcctcc ctttcctgga tgtaggaagg cagattccag aagccccgaa
420

agaaggcggg cagagctggg cagagccgcc gggaggatcc caggctctgga gcgccaggca
480

cgggcggggc ggaactggag gtcgcgcggg cggttccaca gctccaggcc gggtcagggc
540

ggcggctgcg ggggcggccg ggctggggcc tgactgaccg gccggtgatt ccccgagag
600

gatttcgtgt accagtttaa gggcatgtgc tacttcacca acgggacgga gcgcgtgcgt
660

cttgtaacca gacacatcta taaccgagag gagtacgcgc gcttcgacag cgacgtgggg
720

gtgtaccggg cggtgacgcc gcaggggagg cctgttgccg agtactggaa cagccagaag
780

gaagtcctgg agaggacccg ggcggagttg gacacggtgt gcagacacaa ctacgaggtg
840

gggtaccgcg ggatcctgca gaggagaggt gagcgtcgtc gccctccgt gagcgcaccc
900

ttggccggga ccccgagtct ctgtgccggg agggcgatgg gggcgaggtc tctgaaatct
960

gagcccagtt cattccaccc cagggaaagg aggcggcggc gggggtggtg ggggcaggtg
1020

catcgagggg gcggggacct agggcagagc agggggacaa gcagagttgg ccaggctgcc
1080

tagtgtcccc cccagcctcc ccgtccgtcg gcctcgtcct ctgctctgga cgtttctcgc
1140

ctcgtgcctt atgcgtttgc ctctcgtgc cttaccttcg ctaagcagtt ctctctgccc

Sequence Listing

1200

ccagtgccca ccctcttccc ctgcccgcg gcctcgctag cactgcccca cccagcaagg

1260

cccacagttg ccgattcgcc gcaggaagct t

1291

<210> 24
<211> 1289
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (448)..(453)
<223> "N" is an unidentified nucleotide

<220>
<221> misc_feature
<223> DQB1

<400> 24
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120

atgggaagga aggtatttta cccagggacc aagagaatag gcgtatcgga agaggacagg

180

tttaattcct ggacctgtct cgtcattccc ttgaactgtc aggtttatgt ggataacttt

240

atctctgagg taccaggagc tccatgaaa atgagatttc atgcgagaac gccctgatcc

300

ctctaagtgc agaggtccat gtaaaatcag cccgactgcc tcttcacttg gttcacaggc

360

cgagacaggg acagggcttt cctccctttc ctgcctgtag gaaggccgga ttcccgaaga

420

cccccgagag ggcgggcagg gctggcanan ccnccgggag gatcccaggt ctgcagcgcg

480

aggcacgggc gggcggggaac ttgtggtcgc gcgggctggt ccacagctcc gggccgggtc

540

Sequence Listing

aggggtggcgg ctgcgggggc ggacgggctg ggccgcactg accggccggt gattccccgc
600

agaggatttc gtgtaccagt ttaagggcat gtgctacttc accaacggga cagagcgcgt
660

gcgtcttggt agcagaagca tctataaccg agaagagatc gtgcgcttcg acagcgacgt
720

gggggagttc cgggcgggtga cgctgctggg gctgcctgcc gccgagtact ggaacagcca
780

gaaggacatc ctggagagga aacgggcggc ggtggacagg gtgtgcagac acaactacca
840

gttggagctc cgcacgacct tgcagcggcg aggtgagcgg cgtcgccctc tgcgaggccc
900

acccttggcc ccaagtctct gcgccaggag ggggcaaggg tcgtggcctc tgaacctgag
960

ccccgttggt tccaccccag ggaaaggagg cggcggcggg ggggtgctgg gggctggtgc
1020

atcggagggg cagggaccta gggcagagca gggggacagg cagagttggt caagctgcct
1080

agtttcgccc catcctcccc gtccgtcggc ctcgccctct gctctgcacg ttcttgccctc
1140

gtgccttatg cgtttgccct ctcgtgcctt acctttacta agcagttctc tctgccccca
1200

atttccgccc tcttcccctg cccgcccgcc cggctagcac tgccgcaccc ggcaaggctc
1260

acctacacag ctcatgcagt gggaagctt
1289

<210> 25
<211> 1307
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<223> DQB1

Sequence Listing

<400> 25

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tccaacataa aagtgagtga acctcaaatg gcacttggga agggtaaadc taggcatggg

120

aagggaggta ttttaccag ggaccaagag aatacgcag tcagaacgag gacaggctta

180

atttctggac ccgtctcatc attcccttga actcacaggt ttatgtggat aattttatct

240

ctgaggtttc caggagctca atggaaaatg ggatttcatg cgagagcgcc ctgattccct

300

ctaagtgcag aggtctatgt aaaatcagcc cgactgcctc ttccctcggg tcacaggctc

360

cggcagggac agggctttcc gccctttcct gcctgcagga aggcggattc ccgaagcccc

420

cagagagggc gggcagggct gggcagagcc gccgggcgga tcacaagtct ggagcgccag

480

gcacgggcgg gcgggaactg gaggtcgcgc gggcggttcc acagctccgg gccgggtcag

540

ggcggcggct gcgggggcgg ccgggctggg gccgggcccgg ggcctgactg accggccggg

600

gattccccgc agaggatttc gtgtaccagt ttaaggcat gtgctacttc accaacggga

660

cggagcgcgt gcgtcttgtg accagataca tctataaccg agaggagtac gcacgcttcg

720

acagcgacgt gggggtgttc cgggcgggtga cgccgcaggg gccgcctgcc gccgagtact

780

ggaacagcca gaaggaagtc ctggagagga cccgggcgga gttggaacac ggtgtgcaga

840

cacaactacc agttggagct ccgcacgacc ttgcagcggc gaggtgagcg tcgtcgcccc

900

tccgtgaggc ccaccttgg caggggcccc gagtctctgc cgcgggaggg gcgaagggg

Sequence Listing

960

gcgcggcctct ggaaccttga gccttgttca ttccaccccg gctgacagga ggaggcgggg

1020

gtggtggggg caggtgcatc ggaggggagg ggacctaggg cagagcaggg ggacaagcag

1080

agttggccag gctgcctagt gtccccccca gcctcctcgt ccgtcggcct cgtcctctgc

1140

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1200

gcagttctct ctgccccag tggccaccct cttcccctgc ccgccggcct cgctagcact

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gccccaccca gcaaggccca cagtcgcgca ttcgccgcag gaagctt

1307

<210> 26

<211> 418

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<223> DPB 4.1

<400> 26

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gagtggcgcc tccgctcatg tccgccccct cccgcgagag aattaccttt tccagggacg

120

gcaggaatgc tacgcgttta atgggacaca gcgcttcctg gagagataca tctacaaccg

180

ggaggagttc gcgcgcttcg acagcgacgt gggggagttc cgggcggtga cggagctggg

240

gcggcctgct gcggagtact ggaacagcca gaaggacatc ctggaggaga agcgggcagt

300

gccggacagg atgtgcagac acaactacga gctgggcggg cccatgaccc tgcagcgccg

360

Sequence Listing

agggtgagtga gggctttggg ccggcggtcc cagggcagcc ccgcgggccc gtgcccag

418

<210> 27
<211> 300
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<223> DPB9

<400> 27
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cagcgcttcc tggagagata catctacaac cgggaggagt tcgtgcgctt cgacagcgac

120

gtgggggagt tccgggcggt gacggagctg gggcggcctg atgaggacta ctggaacagc

180

cagaaggaca tcctggagga ggagcgggca gtgccggaca gggatatgcag acacaactac

240

gagctggacg aggccgtgac cctgcagcgc cgaggtgagt gagggctttg ggccggcggt

300

<210> 28
<211> 300
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<223> DPB New

<400> 28
ggatccgcag agaattacgt gcaccagtta cggcaggaat gctacgcgtt taatgggaca

60

cagcgcttcc tggagagata catctacaac cgggaggagt tcgtgcgctt cgacagcgac

120

gtgggggagt tccgggcggt gacggagctg gggcggcctg atgaggacta ctggaacagc

180

cagaaggacc tcctggagga gaagcgggca gtgccggaca gggatatgcag acacaactac

240

Sequence Listing

gagctggacg aggccgtgac cctgcagcgc cgaggtgagt gagggctttg ggccggcggt
300

<210> 29
<211> 300
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<223> DPW3

<400> 29
ctccccgcag agaattacct tttccagggg cggcaggaat gctacgcgtt taatgggaca
60

cagcgcttcc tggagagata catctacaac cgggaggagt tcgcgcgctt cgacagcgac
120

gtgggggagt tccgggcggt gacggagctg gggcggcctg ctgcggagta ctggaacagc
180

cagaaggacc tcctggagga gaagcgggca gtgccggaca gggatatgcag acacaactac
240

gagctggacg aggccgtgac cctgcagcgc cgaggtgagt gagggctttg ggccggcggt
300

<210> 30
<211> 23
<212> DNA
<213> Homo sapiens

<400> 30
catgtggcca tcttgagaat gga
23

<210> 31
<211> 24
<212> DNA
<213> Homo sapiens

<400> 31
gcccgggaga tctacaggcg atca
24

<210> 32
<211> 21
<212> DNA

Sequence Listing

<213> Homo sapiens

<400> 32

cgctccctg atcgctgta g

21

<210> 33

<211> 19

<212> DNA

<213> Homo sapiens

<400> 33

ccagagagtg actctgagg

19

<210> 34

<211> 14

<212> DNA

<213> Homo sapiens

<400> 34

cacaattaag ggat

14

<210> 35

<211> 24

<212> DNA

<213> Homo sapiens

<400> 35

tccccggcga cctataggag atgg

24

<210> 36

<211> 23

<212> DNA

<213> Homo sapiens

<400> 36

ctaggaccac ccatgtgacc agc

23

<210> 37

<211> 27

<212> DNA

<213> Homo sapiens

<400> 37

atctcctcag acgccgagat gcgtcac

27

Sequence Listing

<210> 38
<211> 22
<212> DNA
<213> Homo sapiens

<400> 38
ctcctgctgc tctggggggc ag

22

<210> 39
<211> 25
<212> DNA
<213> Homo sapiens

<400> 39
actttacctc cactcagatc aggag

25

<210> 40
<211> 32
<212> DNA
<213> Homo sapiens

<400> 40
cgtccaggct ggtgtctggg ttctgtgccc ct

32

<210> 41
<211> 23
<212> DNA
<213> Homo sapiens

<400> 41
ctggtcacat ggggtggcct agg

23

<210> 42
<211> 26
<212> DNA
<213> Homo sapiens

<400> 42
cgcctgaatt ttctgactct tcccat

26

<210> 43
<211> 24
<212> DNA
<213> Homo sapiens

<400> 43
atcccgggag atctacagga gatg

Sequence Listing

24

<210> 44
<211> 23
<212> DNA
<213> Homo sapiens

<400> 44
aacagcgccc atgtgaccat cct

23

<210> 45
<211> 27
<212> DNA
<213> Homo sapiens

<400> 45
ctggggaggc gccgcgttga ggattct

27

<210> 46
<211> 33
<212> DNA
<213> Homo sapiens

<400> 46
cgtctccgca gtcccggttc taaagttccc agt

33

<210> 47
<211> 18
<212> DNA
<213> Homo sapiens

<400> 47
atcctcgtgc tctcggga

18

<210> 48
<211> 18
<212> DNA
<213> Homo sapiens

<400> 48
tgtggtcagg ctgctgac

18

<210> 49
<211> 18
<212> DNA
<213> Homo sapiens

Sequence Listing

<400> 49
aaggtttgat tccagctt

18

<210> 50
<211> 40
<212> DNA
<213> Homo sapiens

<400> 50
ccccctcccc accccagggtg ttctgtcca ttcttcagga

40

<210> 51
<211> 24
<212> DNA
<213> Homo sapiens

<400> 51
cacatgggcg ctgttgaggt gtcg

24

<210> 52
<211> 22
<212> DNA
<213> Homo sapiens

<400> 52
gtgagtgcgg ggtcgggagg ga

22

<210> 53
<211> 18
<212> DNA
<213> Homo sapiens

<400> 53
caccaccgg gactcaga

18

<210> 54
<211> 22
<212> DNA
<213> Homo sapiens

<400> 54
tggccctgac ccagacctgg gc

22

<210> 55
<211> 21

Sequence Listing

<212> DNA
<213> Homo sapiens

<400> 55
gagggtcggg cgggtctcag c
21

<210> 56
<211> 16
<212> DNA
<213> Homo sapiens

<400> 56
ctctcaggcc ttgttc
16

<210> 57
<211> 16
<212> DNA
<213> Homo sapiens

<400> 57
cagaagtcgc tgttcc
16

<210> 58
<211> 19
<212> DNA
<213> Homo sapiens

<400> 58
ttctgagcca gtcctgaga
19

<210> 59
<211> 20
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Sequence Listing

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Sequence Listing

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Sequence Listing

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Sequence Listing

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